

Claims

1. An implantable pacemaker (1) comprising a pacemaker controller (8) for controlling at least operating mode and pacing rate of said pacemaker, pulse generating means (6) for pacing at least a patient's ventricle, a cardiac signal detecting means (7) for detecting signals originating from at least a patient's atrium (3), an impedance measuring means (9) for measuring an atrial impedance, an arrhythmia detecting means 16, a mode switch algorithm within said controller (8) for switching the pacing mode to a non P-wave synchronous mode if an atrial arrhythmia is detected by arrhythmia detecting means 16 characterized in that atrial distension is measured through said atrial impedance measurement; and that the ventricular pacing rate is increased so as to decrease said atrial distension when an atrial arrhythmia is present.
2. An implantable pacemaker (1) according to claim 1 characterized in that said atrial impedance measurement is made using said impedance measurement means (9) and that said pulse generating means (6) form a part of said impedance measurement means.
3. An implantable pacemaker (1) according to claim 1 characterized in that a bipolar atrial lead comprising an atrial electrode (4), an atrial lead body (5) and a ring electrode (17) is utilized; and the atrial impedance measurement current is injected at the atrial electrode (4) with the pacemaker encapsulation (14) as return node; and that the voltage reflecting the atrial impedance is measured between the atrial electrode (4) and the pacemaker encapsulation (14).
4. An implantable pacemaker according to claim 1

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characterized in that a tripolar atrial lead comprising an electrode (4), an atrial lead body (5), a first ring electrode (17), a second ring electrode (18) is utilized; and

5 the atrial impedance measurement current is injected at the atrial electrode (4) with the pacemaker encapsulation (14) as return node; and the voltage reflecting the atrial impedance is measured between two ring electrodes (17,18) located in the right  
10 atrium (3).

5. An implantable pacemaker according to claim 1 characterized in that said ventricular pacing rate  
15 during an atrial arrhythmia is controlled in a closed loop fashion by varying said ventricular pacing rate to keep said atrial impedance close to a reference value ZDIST.

20 6. An implantable pacemaker according to claim 1 characterized in that the pacemaker repetitively stores measured values of atrial distension; and that measured values can be displayed as average values over a predetermined period.

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